

Analysis Report

To:

FERMI NATIONAL LAB

GAS ONLY ACCT M/S 219

KIRK AND WILSON RDS

RECEIVING DEPT BATAVIA, IL 60510 MTG Customer No:

126120

Manufacturing Location

1700 SCEPTER ROAD WAVERLY, TN 37185

Product: DEUTERIUM (D2)

Cylinder Size: QA

Valve: CGA 350 BR

Grade: ULSI 5N MTG Part No: G2672613

Contents:

212 ft3; 6000 L Net:

Pressure:

2200 psig @ 70°F; 15270 kPa @ 21°C

CYLINDER NUMBER(S)

AT020179

	Specification	Certified Concentration	Units	Analytical Method
Deuterium (D ₂)	≥ 99.999	≥ 99.999	%	
Isotopic Enrichment	≥ 99.8	99.90	% wt.	GC/MS
Nitrogen (N ₂)	≤ ' 1	0.9	ppmv	GC/DID
Oxygen (O ₂)	≤ 1	ND < 0.20	ppmv	GC/DID
Carbon Dioxide (CO ₂)	≤ 1	ND < 0.20	ppmv	GC/DID
Carbon Monoxide (CO)	≤ 1	ND < 0.20	ppmv	GC/DID
Total Hydrocarbons	≤ 1	ND < 0.20	ppmv	GC/DID
Water + Deuterated Water (H ₂ O+D ₂ O)	≤ 1	ND < 0.50	ppmv	ELECTROLYTIC
Hydrogen (H₂)	≤ 100	0.9	ppmv	GC/MS
Hydrogen Deuteride (HD)	≤ 3000	1848	ppmv	GC/MS
		COMMENTS		

Lot No:

9006416137K9

Fill Date:

Expiration Date:

12/02/2016 12/02/2019

*Overall Purity Excludes HD and H2

The provision of this certificate is expressly subject to and governed by Matheson Tri-Gas' Terms and Conditions of Sale available on our web site, www.matheson-trigas.com. This document was issued electronically and data validated by electronic signature.

02/03/2017

03/08/2017

Deanna Oliphant - Analyst

Date

Allen Stewart - QA Approval

Date